

WELL DECOMMISSIONING CONSTRUCTION SPECIFICATION

1. SCOPE

The work shall consist of sealing and permanent closure of a water well no longer in use.

2. MATERIALS

- A. Neat cement grout shall consist of a mixture of cement and water in the proportion of one (1) bag of Portland cement (94 pounds, ASTM C 150, Type I or API-10A, Class A) per five (5) to six (6) gallons of clean water from a known safe and uncontaminated source. Powdered bentonite may be added up to a ratio of five (5) pounds per 94 pound bag of cement.
- B. Concrete (sand-cement) grout shall consist of a mixture of cement, sand, and water in the proportion of one (1) bag of Portland cement, (94 pounds, ASTM C 150, Type I or API-10A, Class A) and one (1) cubic foot of dry sand per five (5) to six (6) gallons of clean water from a known safe and uncontaminated source. The sand shall conform to ASTM C 33, fine aggregate for concrete.
- C. Sodium bentonite water slurry (drilling mud and cuttings) shall have a mud weight of at least eleven (11) pounds per gallon and a sand content of ten (10) to twenty-five (25) percent by volume of the slurry.
- D. Clay slurry is a fluid mixture of water, clean native or commercial clay and drill cuttings. The clay slurry shall have a mud weight of at least eleven (11) pounds per gallon.
- E. Bentonite chips are irregularly shaped pieces of sodium bentonite that look very much like crushed limestone.
- F. Concrete shall consist of a commercially prepared mixture of sand, gravel, Portland cement, and water. It shall contain at least 6 bags (94 pounds each) Portland cement per cubic yard and a maximum of 6 gallons of water per bag of cement. The maximum gravel size shall not exceed 1/3 of the inside diameter of the conductor pipe used to place the material.
- G. Conductor (tremie) pipe shall be: a) Metal pipe, b) rubber-covered hose reinforced with braided fiber or steel with a minimum rating

of 300 psi, or c) thermoplastic pipe with a minimum rating of 100 psi. Thermoplastics include PVC, CPVC, PE, PB, or ABS and shall not be used for depths greater than 100 feet.

- H. Aggregates can consist of sand, crushed stone or similar materials and must be uncontaminated and consistent in size to minimize bridging during placement.
- I. A bridge seal consists of installing an expandable plug made of wood, neoprene, or other mechanical packer.

3. PROCEDURES

Use the procedures set forth in Construction Guide PA-2, "Well Decommissioning", and Section 6.

4. MARKINGS AND CERTIFICATION

Markings on material identifying the manufacture and indicating compliance with appropriate specification(s) can be accepted as evidence that the material meets the requirements of this specification. If the material does not bear these markings, the manufacturer must certify that it complies with the requirements of this specification.

5. REPORTING

The owner or his/her agent shall notify PA DEP Bureau of Topographic and Geological Survey of their intent to decommission a well at least 10 days before the well is to be sealed or filled. As part of this process they will fill out the "Well Abandonment Form", as found in the most current PA-DEP "Ground Water Monitoring Guidance Manual" Chapter. 7, Well Abandonment Procedures.

The contractor shall maintain records of all materials used, locations, depths, etc. The contractor shall certify his work upon completion of the project for certification to PA-DEP.

**6. ADDITIONAL CONDITIONS WHICH
APPLY TO THIS PROJECT ARE:**